Unexplained Critical Illness or Death

1. DISEASE REPORTING

A. Purpose of Reporting and Surveillance

1. To identify emerging pathogens in Washington State.
2. To raise the index of suspicion of a possible bioterrorism event.

B. Legal Reporting Requirements

1. Health care providers: **immediately notifiable to local health jurisdiction**
2. Hospitals: **immediately notifiable to local health jurisdiction**
3. Laboratories: no requirements for reporting
4. Local health jurisdictions: **immediately notifiable to the Washington State Department of Health (DOH) Communicable Disease Epidemiology Section (CDES)**

C. Local Health Jurisdiction Investigation Responsibilities

1. For sporadic cases, review the clinical presentation, laboratory findings, and autopsy report if available.
2. For clusters of patients with a similar illness, review the clinical presentation, laboratory findings, and autopsy report (if available) of all the patients and facilitate the transport of specimens to the Washington State Public Health Laboratories for additional testing.
3. Report all persons who meet the clinical case definition to CDES. Complete the case report form (http://www.doh.wa.gov/notify/forms/unexpl.pdf) and enter the data into the Public Health Issues Management System (PHIMS) as Unexplained Critical Illness or Death. If a cause of death is determined to be a notifiable condition, transfer the case in PHIMS to the reportable condition.

2. THE DISEASES AND THEIR EPIDEMIOLOGY

Background

The purpose of this surveillance system is to identify emerging pathogens and identify bioterrorism events. In 1993, two individuals from New Mexico with critical illness presented to the same physician. Upon the initiation of an investigation, hantavirus was identified and the reservoir was determined within 6 weeks of the first case presentation.

Unexplained Critical Illness and Death in Washington

Requirements for the reporting of unexplained critical illness or death were instituted in December of 2000. Since then, DOH has received 0–6 reports annually. The most common clinical syndromes reported are central nervous system (meningitis, encephalitis), respiratory, and sepsis/multiorgan failure.

It is important that clinicians report unusual disease occurrences or deaths to their local health jurisdictions even before they have completed a laboratory investigation.

3. CASE DEFINITIONS

A. Clinical Criteria for Diagnosis

Case meets all of the following criteria:

- Critical illness (an illness resulting in admission to the intensive care unit) or death in a person aged 1 to 49, AND
- Previously healthy with no preexisting known medical condition including:
  - Malignancy;
  - HIV infection;
  - Chronic cardiac;
  - Pulmonary, renal, hepatic or rheumatologic disease;
  - Diabetes mellitus;
  - Immunosuppressive therapy or disease;
  - Trauma thought to be related to illness;
  - Evidence of toxic ingestion or exposure;
  - Nosocomial infection prior to the onset of illness; AND
- Hallmarks of infectious disease including at least one of the following:
  - Fever or history of fever;
  - Leukocytosis (total WBC count above the range for normal);
  - Histopathologic evidence of an acute infectious process; or
  - A physician-diagnosed syndrome consistent with an infectious disease including: encephalitis/meningitis, fulminant hepatitis/hepatic failure, myocarditis, or ARDS/respiratory failure; AND
- Preliminary testing has not revealed a cause for illness or death.

4. DIAGNOSIS AND LABORATORY SERVICES

If a cluster of cases with a similar clinical presentation is detected, DOH and CDC will assist with additional diagnostic testing. For single cases, resources are limited for additional testing. Call Communicable Disease Epidemiology Section to discuss.

5. ROUTINE CASE INVESTIGATION

A. Evaluate the Diagnosis

Request medical records and review the clinical presentation, physical exam findings, laboratory findings and autopsy report, if available. Clusters of unexplained critical illness or death may require a more extensive investigation including additional laboratory testing.

B. Identify Potential Sources of Infection

Determine if the case has been in contact with others with similar symptoms. Identify any potential infectious exposures including recent travel, occupational or hobby exposures, or contact with unusual animals.

6. CONTROLLING FURTHER SPREAD

Infection control measures depend on the suspected agent. Consult with Communicable Disease Epidemiology Section. In general, follow standard precautions in health care settings. Contact or respiratory precautions may also be appropriate depending on the patient's symptoms. Conditions such as SARS and South American hantavirus infection were transmitted from undiagnosed patients to health care providers.

7. MANAGING SPECIAL SITUATIONS

A. Suspected Bioterrorism

If bioterrorism is suspected, Communicable Disease Epidemiology Section will arrange for specialized laboratory testing, provide guidelines for treatment, prophylaxis and infection control and assist in field investigations.

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